Complete Summary

GUIDELINE TITLE

Management of patients with lung cancer. A national clinical guideline.

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network (SIGN). Management of patients with lung cancer. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2005 Feb. 63 p. (SIGN publication; no. 80). [345 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Management of lung cancer. A national clinical guideline recommended for use in Scotland by the Scottish Intercollegiate Guidelines Network. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 1998 Feb. 53 p. (SIGN publication; no. 23).

Any updates to the guideline in the interim period will be noted on the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Lung cancer, including small cell carcinoma (SCLC) and non-small cell (NSCLC) tumours

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Oncology
Pulmonary Medicine
Radiation Oncology
Surgery

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To present evidence-based recommendations for the management of lung cancer

TARGET POPULATION

Patients with small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC).

This guideline does not address patients with other thoracic malignant disease such as mesothelioma, carcinoma in situ or secondary cancers that have spread to the lungs.

INTERVENTIONS AND PRACTICES CONSIDERED

Presentation and Referral

1. Refer for chest X-ray
2. Refer to a chest physician
3. Provide support and information to patients
4. Discuss smoking cessation

Diagnosis/Evaluation

1. Imaging including chest X-ray, computed tomography (CT) scanning, neoSPECT scanning, positron emission tomography (PET) scanning

2. Bronchoscopy
3. Percutaneous fine needle aspiration (FNA)/biopsy
4. Sputum cytology
5. Video-assisted thoracoscopy
6. Anterior mediastinotomy/mediastinoscopy
7. Staging:
    - T stage in non-small cell lung cancer (NSCLC) via CT scanning, magnetic resonance imaging (MRI) scanning, thoracoscopy, and pleural aspiration and/or biopsy with pleural effusion
    - N stage in NSCLC via CT scanning, MRI, mediastinoscopy, PET scanning
    - M stage in NSCLC via clinical evaluation, PET scanning, CT or MRI or ultrasound (US), and bone scan
    - Small cell lung cancer (SCLC) via clinical evaluation and CT of chest and abdomen

Treatment

1. Surgery including radical surgery (stage I and II), lung resection, thoracotomy, video-assisted thoracic surgery (VATS) (stage I and II), mediastinal lymph node dissection
2. Talc for malignant pleural effusion
3. Radiotherapy including radical radiotherapy, hyperfractionated and/or accelerated radiotherapy
4. Palliative thoracic radiotherapy in patients with symptomatic, locally advanced lung cancer, isolated brain metastases, and symptomatic metastases
5. Chemotherapy with a platinum-based regimen
6. Second line chemotherapy with docetaxel in patients with stage IIIB/IV NSCLC
7. Combination intravenous chemotherapy in patients with SCLC over 70
8. Chemotherapy with a platinum and etoposide for first line in patients with SCLC
9. Second line chemotherapy in patients with SCLC
10. Combined modalities including:
    - Preoperative (neoadjuvant) chemotherapy in NSCLC patients undergoing curative therapy with or without radiotherapy
    - Postoperative (adjuvant) chemotherapy in NSCLC patients undergoing curative therapy
    - Postoperative (adjuvant) radiotherapy in NSCLC patients undergoing curative therapy
    - Neoadjuvant and adjuvant chemotherapy in NSCLC patients undergoing radical radiotherapy
    - Concurrent chemotherapy in NSCLC patients undergoing radical radiotherapy
    - Consolidated thoracic radiotherapy in patients with limited SCLC
    - Concurrent radiotherapy and chemotherapy in patients with limited disease SCLC
    - Hyperfractionated radiotherapy regimens in patients with limited disease SCLC
    - Prophylactic cranial radiotherapy in SCLC patients with limited disease

11. Endobronchial and vascular therapies including external beam radiotherapy, photodynamic therapy, brachytherapy, electrocautery, stents and Nd-YAG laser therapy

Note: Guideline developers discussed but did not specifically recommend complementary therapies including meditation and relaxation, touch therapies such as massage, reflexology and aromatherapy, and homeopathy and acupuncture

Management

1. Management plan with a multidisciplinary team
2. Allied health professional services offered to patients
3. Follow-up and communication with patients
4. Provide access to specialist palliative care teams
5. Adequate symptom management

MAJOR OUTCOMES CONSIDERED

- Accuracy of diagnostic and staging instruments
- Lung cancer symptoms
- Survival rates
- Objective response rates to treatment
- Local recurrence rates
- Risk of developing cranial metastases
- Adverse effects of treatment
- Quality of life
- Mortality rates

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence base for this guideline was synthesised in accordance with Scottish Intercollegiate Guidelines Network (SIGN) methodology. A systematic review of the literature was carried out using an explicit search strategy devised by a SIGN Information Officer in collaboration with Information Scientists from the National Collaborating Centre for Acute Care. Databases searched include Medline, Embase, CINAHL, PsychINFO, and the Cochrane Library. The year range covered was 1998 to April 2004. Internet searches were carried out on various websites including the New Zealand Guidelines Programme, NELH Guidelines Finder, and the US National Guidelines Clearinghouse. The Medline version of the main search strategies can be found on the SIGN website, in the section covering supplementary guideline material. The main searches were supplemented by material identified by individual members of the development group.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1-: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies; high quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

All selected papers were evaluated by either at least two members of the group or by systematic reviewers from the Collaborating Centre, using standard SIGN methodological checklists before conclusions were considered as evidence.

Additional details can be found in the companion document titled "An Introduction to the SIGN Methodology for the Development of Evidence-based Clinical Guidelines." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50]). Available from the SIGN Web site.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The process for synthesizing the evidence base to form graded guideline recommendations is illustrated in the companion document: SIGN 50: A guideline developers' handbook. Edinburgh (UK): Scottish Intercollegiate Guidelines Network. (SIGN publication; no. 50), available from the SIGN Web site.

Guideline recommendations are graded to differentiate between those based on strong evidence and those based on weak evidence. This judgement is made on the basis of an (objective) assessment of the design and quality of each study and a (perhaps more subjective) judgement on the consistency, clinical relevance and external validity of the whole body of evidence. The aim is to produce a recommendation that is evidence-based, but which is relevant to the way in which health care is delivered in Scotland and is therefore implementable.

It is important to emphasise that the grading does not relate to the importance of the recommendation, but to the strength of the supporting evidence and, in particular, to the predictive power of the study designs from which that data was obtained. Thus, the grading assigned to a recommendation indicates to users the likelihood that, if that recommendation is implemented, the predicted outcome will be achieved.

Evidence tables are compiled by SIGN executive staff based on the quality assessments of individual studies provided by guideline development group members. The tables summarise all the validated studies identified from the systematic literature review relating to each key question. They are presented in a standard format to make it easier to compare results across studies, and will present separately the evidence for each outcome measure used in the published studies. These evidence tables form an essential part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent

It is rare for the evidence to show clearly and unambiguously what course of action should be recommended for any given question. Consequently, it is not always clear to those who were not involved in the decision making process how guideline developers were able to arrive at their recommendations, given the evidence they had to base them on. In order to address this problem, SIGN has introduced the concept of considered judgement.

Under the heading of considered judgement, guideline development groups summarise their view of the total body of evidence covered by each evidence table. This summary view is expected to cover the following aspects:

- Quantity, quality, and consistency of evidence
- Generalisability of study findings
- Directness of application to the target population for the guideline.

- Clinical impact (i.e. the extent of the impact on the target patient population, and the resources needed to treat them)
- Implementability (i.e. how practical it would be for the NHS in Scotland to implement the recommendation)

Guideline development groups are provided with a pro forma in which to record the main points from their considered judgement. Once they have considered these issues, the group is asked to summarise their view of the evidence and assign a level of evidence to it, before going on to derive a graded recommendation.

On occasion, guideline development groups find that there is an important practical point that they wish to emphasise but for which there is not, nor is their likely to be, any research evidence. This will typically be where some aspect of treatment is regarded as such sound clinical practice that nobody is likely to question it. These are marked in the guideline as Good Practice Points, and are indicated. It must be emphasised that these are not an alternative to evidence-based recommendations, and should only be used where there is no alternative means of highlighting the issue.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendations

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

Grade A: At least one meta-analysis, systematic review of randomized controlled trials (RCTs), or RCT rated as 1++ and directly applicable to the target population; or

A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

Grade B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 1++ or 1+

Grade C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 2++

Grade D: Evidence level 3 or 4; or

Extrapolated evidence from studies rated as 2+

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

A national open meeting is the main consultative phase of Scottish Intercollegiate Guidelines Network (SIGN) guideline development, at which the guideline development group presents its draft recommendations for the first time. The national open meeting for this guideline was held in February 2004 and was attended by all of the key specialties relevant to the guideline. The draft guideline was also available on the SIGN website for one month to allow those unable to attend the meeting to contribute to the development of the guideline.

The guideline was also reviewed in draft form by a panel of independent expert referees, who were asked to comment primarily on the comprehensiveness and accuracy of interpretation of the evidence base supporting the recommendations in the guideline.

As a final quality control check, the guideline is reviewed by an Editorial Group comprising the relevant specialty representatives on SIGN Council to ensure that the peer reviewers' comments have been addressed adequately and that any risk of bias in the guideline development process as a whole has been minimised.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC): In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the full-text guideline document.

The grades of recommendations (A-D) and levels of evidence (1++, 1+, 1-, 2++, 2+, 2-, 3, 4) are defined at the end of the "Major Recommendations" field.

Presentation and Referral

Symptoms and Signs

D - Patients should be referred urgently for a chest X-ray if they have experienced unexplained or persistent haemoptysis.

D - Patients should be referred for a chest X-ray if any of the following symptoms persist for more than three weeks without an obvious cause:

- Cough
- Chest/shoulder pain
- Dyspnoea
- Weight loss
- Chest signs
- Hoarseness
- Finger clubbing
- Features suggestive of metastases from lung cancer (e.g., brain, bone, liver or skin)
- Persistent cervical/supraclavicular lymphadenopathy

Referral to a Respiratory Physician

D - Patients should be referred urgently to a chest physician if they have any of the following:

- Persistent haemoptysis in smokers or ex-smokers over 40 years of age
- A chest x-ray suggestive or suspicious of lung cancer (including pleural effusion and slowly resolving or recurrent consolidation)
- Signs of superior vena caval obstruction (swelling of the face and or neck with fixed elevation of jugular venous pressure)
- Stridor (emergency referral).

D - Even with a normal chestxX-ray, patients who have experienced unexplained, nonspecific symptoms (e.g., fatigue potentially attributable to lung cancer) for more than six weeks should be referred urgently to a respiratory physician.

Fast Track Systems

D - Pathways for patients with suspected or confirmed lung cancer should be reviewed by Managed Clinical Networks with a view to implementing fast track models for assessing these patients.

Diagnostic Investigations

Imaging

D - A chest x-ray should be performed on all patients being investigated for the possibility of lung cancer.

D - Contrast enhanced computed tomography (CT) scanning of the chest and abdomen is recommended in all patients with suspected lung cancer, regardless of chest x-ray results.

D - A tissue diagnosis should not be inferred from CT appearances alone.

D - CT scanning should be performed prior to further diagnostic investigations, including bronchoscopy, and the results used to guide the investigation that is most likely to provide both a diagnosis and stage the disease to the highest level.

D - NeoSPECT (Tc-99m depreotide, an imaging agent which binds to somatostatin receptors on malignant tumours) scanning should be considered as an investigation in patients presenting with solitary pulmonary nodules but histological confirmation will usually be required.

C - Positron emission tomography (PET) scanning may be used to investigate patients presenting with solitary lung lesions but histological/cytological confirmation of results will still be required.

Bronchoscopy

B - Patients with central lesions who are otherwise fit should undergo flexible bronchoscopy in order to establish a histological or cytological diagnosis.

B - Visible tumours should be sampled using more than one technique to optimize sensitivity.

B - Bronchoscopy may provide a diagnosis for peripheral lesions, although percutaneous fine needle aspiration (FNA)/biopsy is the preferred approach.

Percutaneous FNA/Biopsy

B - Percutaneous FNA/biopsy should be considered as the preferred diagnostic technique in patients with peripheral lesions.

Sputum Cytology

D - Sputum cytology should only be used in patients with large central lesions, where bronchoscopy or other diagnostic tests are deemed unsafe.

Video-Assisted Thoracoscopy

D - Thoracoscopy should be considered for patients with suspected lung cancer where less invasive means have not achieved histological and cytological confirmation of diagnosis.

Staging

T Stage in Non-Small Cell Lung Cancer (NSCLC)

B - Patients with suspected T3 or T4 disease who are otherwise fit for surgery should not be denied surgical exploration on the basis of a CT alone.

B - Magnetic resonance imaging (MRI) is not recommended in the routine assessment of the T stage except in patients with superior sulcus tumours. It may be of value in selected patients with suspected mediastinal invasion.

C - Thoracoscopy may be considered for more accurate determination of the T stage in patients with suspected mediastinal or chest wall invasion when less invasive techniques have been inconclusive.

D - In patients being considered for curative therapy, pleural effusion should be investigated with pleural aspiration and/or pleural biopsy.

D- The presence of malignant cells is required to categorise the lesion as T4.

N Stage in NSCLC

B - A positive CT scan result for mediastinal lymphadenopathy indicates the need for surgical biopsy of the enlarged nodes, regardless of size or site (with the exception of extensive infiltrating disease).

B - Patients with small peripheral tumours and a negative CT scan of the mediastinum require no further investigation. Otherwise it is reasonable to further investigate the mediastinum with mediastinoscopy or PET prior to performing a thoracotomy.

B - MRI has no role in the routine staging of mediastinal lymphadenopathy.

C - Mediastinoscopy should be used to stage the mediastinum where possible.

C - Inaccessible nodal stations can be staged using thoracoscopy, endoscopic ultrasound (EUS) FNA, endobronchial ultrasound (EBUS) FNA, percutaneous CT guided biopsy, extended cervical mediastinoscopy or parasternal mediastinotomy, as appropriate to the patient's circumstances.

C - Patients with a negative CT scan result for mediastinal adenopathy should proceed to PET, except for those with small peripheral tumours.

C - Patients with a negative PET scan result for mediastinal adenopathy should proceed to thoracotomy.

C - Patients with a positive PET scan result for mediastinal adenopathy require histological confirmation.

M Stage in NSCLC

C - Patients staged as cI-II on the basis of a chest CT and a negative clinical evaluation do not require further investigation to look for extrathoracic metastases.

C - Patients staged as cIII following clinical evaluation may require further investigation for distant metastases.

C - Contrast enhanced head CT or MRI in patients with cI-II disease is not recommended.

B - A positive bone scan in patients with otherwise potentially curable disease must be confirmed by other studies (e.g., plain X-rays, MRI or biopsy).

C - Ultrasound (US), CT or MRI can be used to characterise most benign focal hepatic abnormalities >1cm.

C - A definitive confirmation of a liver metastasis can only be made by needle biopsy.

C - The management of patients with lesions too small to characterise by imaging and not amenable to biopsy is best guided by an estimation of the chance of metastatic disease given the clinical stage and symptoms.

B - It may be reasonable to forego further investigation of adrenal glands <2 cm, in patients who are stage cI-II and who have a negative clinical evaluation

B - Patients having adrenal gland nodules >2 cm, should proceed to further imaging studies and biopsy as necessary.

C - Patients with small pulmonary nodules should not be denied a curative approach without a definitive diagnosis (by biopsy, FNA or wedge resection).

Staging Small Cell Lung Cancer (SCLC)

B - Investigation for distant metastases is recommended when intensive treatment is being considered for patients with SCLC who are considered to be at high risk of having distant metastases.

Surgery

NSCLC

D - Patients with stage I and II lung cancer should be considered for curative surgery whenever possible.

D - Lung resection should be as limited as possible without compromising cancer clearance. Lobectomy remains the procedure of choice for fit patients.

D - Every effort should be made to avoid a futile thoracotomy.

D - Video-assisted thorascopic surgery (VATS) resection, undertaken by an appropriately skilled surgeon, may be offered to selected patients with clinical stage I lung cancer.

B - Systematic mediastinal lymph node dissection is recommended as offering the best compromise between accuracy of staging and containment of morbidity.

D - Patients with superior sulcus tumours not involving the brachial plexus and with negative mediastinoscopy may be considered for resection.

B - Patients with a solitary synchronous or metachronous brain metastasis and otherwise potentially curative lung cancer:

- May be considered for resection of the metastasis
- Should be given adjuvant brain radiotherapy to reduce the risk of local recurrences

SCLC

A - Routine surgery for limited disease SCLC is not recommended.

D - Patients with early stage SCLC may be considered for resection following extensive staging investigation.

Management of Malignant Pleural Effusion

A - Talc is the optimal sclerosant for thoracoscopic pleurodesis in patients with a malignant pleural effusion who are fit enough to undergo sedation or general anaesthesia.

A - In patients who are unfit for a thoracoscopic procedure, tube thoracostomy pleurodesis using talc slurry should be performed.

Radiotherapy

NSCLC

B - Patients with NSCLC stage I and II who are medically inoperable or who do not consent to surgery should be offered radical radiotherapy.

B - Patients meeting the following criteria should be offered radical radiotherapy:

- IIIA or IIIB disease, as long as the tumour can be safely encompassed within a radical radiotherapy volume
- World Health Organization (WHO) performance status (PS) 0 or 1
- Less than 10% weight loss

A - Patients having radical radiotherapy should be given Continuous Hyperfractionated Accelerated Radiation Therapy (CHART) (54Gy/36F/12 days) in preference to 60Gy/30F/6W.

Small Cell and NSCLC

A - Patients with thoracic symptoms and good performance status not suitable for radical radiotherapy should be considered for more fractionated, higher dose regimens of palliative radiotherapy, such as 39Gy/13F.

A - Patients with thoracic symptoms and poor performance status not suitable for radical radiotherapy should receive palliative radiotherapy with regimens of 10Gy/1F or 16Gy/2F.

B - Patients with single brain metastases should be offered resection followed by whole brain radiotherapy.

A - Patients with lung cancer and symptomatic bone metastases should be treated with a single 8Gy fraction of palliative radiotherapy.

A - Selected patients with unresectable and/or multiple brain metastases and good performance status should be considered for fractionated palliative radiotherapy (e.g., 20Gy/5F).

Chemotherapy

Chemotherapy for Patients with Stage IIIB and IV NSCLC

A - Chemotherapy with a platinum-based combination doublet regimen should be considered in all patients who are not suitable for curative resection or radical radiotherapy and are fit enough to receive it.

A - Selected older patients with stage III/IV NSCLC should be offered chemotherapy.

A - For patients with advanced NSCLC the number of chemotherapy cycles should not exceed four.

A - Second line chemotherapy with docetaxel 75 mg/m^2 (three weekly) should be considered for stage IIIB/IV NSCLC patients with good performance status.

Chemotherapy for Patients with SCLC

A - Combination intravenous chemotherapy should be considered for SCLC patients over 70 years of age with performance status 0-2.

A - A regimen containing a platinum agent and etoposide is recommended for first line treatment of patients with SCLC.

A - In patients with SCLC the recommended number of chemotherapy cycles is three to six.

B - Second line chemotherapy in patients with SCLC should be considered depending on the duration of response to first line chemotherapy and on patients' performance status and wishes.

B - Maintenance chemotherapy following first line treatment is not recommended.

Reducing Toxicity in NSCLC and SCLC

A - The routine use of growth factors in supporting patients during chemotherapy is not recommended.

A - Amifostine should not be used with cisplatin ($\leq$80 mg/m^2) outwith clinical trials.

Administration of Chemotherapy

D - Staff should be experienced and trained in safe prescribing, preparation and administration of chemotherapy and be involved in ongoing continuous professional development and reappraisal.

D - Hospital based administration of chemotherapy should take place during the working day in designated areas equipped to deal with any medical emergencies.

Combined Modalities

Preoperative (Neoadjuvant) Chemotherapy in NSCLC Patients Undergoing Curative Surgery Plus Radiotherapy

D - There is no role for preoperative chemoradiation outside clinical trials.

Postoperative (Adjuvant) Chemotherapy in NSCLC Patients Undergoing Curative Surgery

A - Adjuvant chemotherapy should be considered for resected NSCLC, but discussed fully given the small margin of benefit, risk of toxicity and uncertainty as to which group of patients is most likely to benefit.

Postoperative (Adjuvant) Radiotherapy in NSCLC Patients Undergoing Curative Surgery

A - Patients with NSCLC who have had complete tumour resection should not receive postoperative radiotherapy, except as part of a randomised trial.

Neoadjuvant and Adjuvant Chemotherapy in NSCLC Patients Undergoing Radical Radiotherapy

A - Platinum-based combination chemotherapy should be considered for good performance status patients with locally advanced disease who are to be treated with radical radiotherapy at standard fractionation (e.g., 60Gy/30F/6W).

Consolidation Thoracic Radiotherapy in Patients with Limited SCLC Disease

A - Consolidation thoracic radiotherapy should be considered for patients with limited disease SCLC who have achieved complete response or partial response following chemotherapy.

Prophylactic Cranial Radiotherapy in SCLC Patients with Limited Disease

A - Prophylactic cranial radiotherapy should be offered to patients with limited disease SCLC achieving remission after chemotherapy.

Endobronchial and Vascular Therapies

Endobronchial Treatments

D - Photodynamic therapy (PDT) may be useful as a treatment option for early stage lung cancer in patients who are inoperable for medical reasons.

D - Photodynamic therapy may contribute to the control of pulmonary symptoms in patients with locally advanced disease.

D - Endobronchial treatments such as brachytherapy, electrocautery, cryosurgery, Nd-YAG laser therapy and stents, may be useful in relieving malignant airway obstruction where standard treatments (e.g., external beam radiotherapy) have failed.

Management of Superior Vena Cava Obstruction (SVCO)

B - In patients with SVCO due to SCLC, chemotherapy/radiotherapy is recommended as initial treatment, but stenting may be considered for relapse or persistent SVCO.

Multidisciplinary Teams, Follow Up and Communication

Role of the Multidisciplinary Team

D - All patients with a diagnosis of lung cancer should have their treatment and management planned and directed by a multidisciplinary team.

D - Allied health professional services should be offered to all patients with lung cancer.

Follow Up

B - Follow up by clinical nurse specialists should complement conventional arrangements.

D - Hospital follow up should be continued where hospital treatment or specialist advice is still required, or whilst clinical trials are ongoing.

D - After surgery, the surgeon should follow up all patients initially: later follow up should be according to local policy.

D - After palliative therapy is completed, follow up should be agreed between the oncologist, respiratory physician, general practitioner (GP) and palliative care team.

Communication

A - Communication skills training should be provided across the Multidisciplinary Team (MDT).

Supportive and Palliative Care

Specialist Palliative Care Services

B - All patients with lung cancer should have access to a specialist palliative care team.

Symptom Management

D - Symptoms should be assessed regularly and appropriate interventions initiated by the full multidisciplinary team.

Definitions:

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1 -: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies; high quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

Grades of Recommendation

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

A: At least one meta-analysis, systematic review of RCTs, or RCT rated as 1++ and directly applicable to the target population; or

A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 1++ or 1+

C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 2++

D: Evidence level 3 or 4; or

Extrapolated evidence from studies rated as 2+

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Accurate diagnosis, histological typing, assessment and staging to determine the most appropriate management for each patient.
- Radical surgery confers a five year survival of between 54-80% for patients with stage 1A lung cancer and 38-65% for patients with stage 1B lung cancer. Surgery gives the highest chance of cure for patients with stage I and II lung cancer.
- Radiotherapy has a well documented effect in palliating thoracic symptoms and, in selected patients with non-small cell lung cancer, it may be curative. It can also be useful in treating locally symptomatic metastases.
- A meta-analysis evaluating the benefit of chemotherapy in patients with non-small cell lung cancer (NSCLC) concluded that there is a median survival improvement of around six weeks and a 10% increase in one year survival with cisplatin-based regimens.
- There is increasing evidence that combining modalities of treatment (surgery, radiotherapy and chemotherapy) may improve outcome in both small cell and non-small cell lung cancer.
- Photodynamic therapy (PDT), brachytherapy, electrocautery, cryotherapy, stents and Nd-YAG laser therapy are therapeutic options available for the

management of endobronchial malignancies. They may be used in the curative treatment of early stage lung cancers or, more commonly, in the palliative management of tumours causing airway obstruction.

POTENTIAL HARMS

Surgery

- A significant mortality is associated with futile thoracotomies
- There are concerns that radical mediastinal lymph node dissection may increase postoperative morbidity

Chemotherapy

In a large randomized controlled trial, chemotherapy-related mortality was reported at 0.8% and 23% of patients had at least one episode of life threatening adverse effects from chemotherapy, largely attributable to myelotoxicity.

Radiotherapy

Higher dose regimens of palliative thoracic radiotherapy result in increased toxicity, especially radiation oesophagitis.

CONTRAINDICATIONS

CONTRAINDICATIONS

Although extended resection including excision of vertebral elements is described, such cases are extremely rare and resection is generally contraindicated in T4 tumours.

QUALIFYING STATEMENTS

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This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the appropriate healthcare professional(s) in light of the clinical data presented by the patient and the diagnostic and treatment options available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation of national clinical guidelines is the responsibility of each National Health Service (NHS) Health Board and is an essential part of clinical governance. It is acknowledged that not every guideline can be implemented immediately on publication, but mechanisms should be in place to ensure that the care provided is reviewed against the guideline recommendations and the reasons for any differences assessed and, where appropriate, addressed. These discussions should involve both clinical staff and management. Local arrangements may then be made to implement the national guideline in individual hospitals, units and practices, and to monitor compliance. This may be done by a variety of means including patient-specific reminders, continuing education and training, and clinical audit.

IMPLEMENTATION TOOLS

Quick Reference Guides/Physician Guides

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network (SIGN). Management of patients with lung cancer. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2005 Feb. 63 p. (SIGN publication; no. 80). [345 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 Feb (revised 2005 Feb)

GUIDELINE DEVELOPER(S)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Scottish Executive Health Department

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Declarations of interests were made by all members of the guideline development group. Further details are available from the Scottish Intercollegiate Guidelines Network (SIGN) Executive.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Management of lung cancer. A national clinical guideline recommended for use in Scotland by the Scottish Intercollegiate Guidelines Network. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 1998 Feb. 53 p. (SIGN publication; no. 23).

Any updates to the guideline in the interim period will be noted on the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Quick reference guide: Management of lung cancer. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2005 Feb. 12 p. Available in Portable Document Format (PDF) from the Scottish Intercollegiate Guidelines Network (SIGN) Web site.
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001 Feb. (SIGN publication; no. 50). Electronic copies available from the SIGN Web site.
- Appraising the quality of clinical guidelines. The SIGN guide to the AGREE (Appraisal of Guidelines Research & Evaluation) guideline appraisal instrument. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001. Available from the SIGN Web site.
- A background paper on the legal implications of guidelines. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 6, 2002. The information was verified by the guideline developer as of April 9, 2002. The summary was updated on April 4, 2005.

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